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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,401	07/29/2003	Hiroshi Inoue	Q76719	3990
23373	7590	11/18/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			MOUTTET, BLAISE I.	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,401

Applicant(s)

INOUE, HIROSHI

Examiner

Blaise L Mouttet

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The IDS submitted July 29, 2003 has been considered by the examiner.

Specification

3. The disclosure is objected to because of the following informality:

On page 7, line 8 "main scan direction S" should read --main scan direction M-- in accordance with the prior recitation and figure 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Field et al. US 5,969,736.

Field et al. discloses, regarding claim 1, a liquid ejecting device comprising:

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a liquid ejecting head (2), including an array of plural ejection nozzles (7) for ejecting liquid at an ejecting amount controlled individually from one another (column 6, lines 13-22, as explained by Field et al. nozzles 7 are individually controlled by respective firing elements 6);

a supply tank (22), loaded with the liquid, for supplying the liquid ejecting head (2) with the liquid (column 6, lines 37-39);

at least one pressure sensor (56) for measuring atmospheric pressure and inner pressure of the liquid ejecting head (2) (column 15, lines 51-67); and

a controller (66) for setting a pressure difference between the atmospheric pressure and the inner pressure at a predetermined value by adjustment (column 5, lines 35-38, column 16, lines 14-20).

Regarding claim 2, the predetermined value (predetermined pressure differential) is a reference value for regularizing the ejecting amount (column 5, lines 35-50).

Additional Prior Art

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fillmore et al. US 3,787,882 teaches detecting pump pressure, drop velocity, and temperature in a liquid ejection device and compensating for different liquid characteristics by controlling pressure in response to the detections (column 3, lines 20-25). Fillmore et al. fails to disclose or suggest a pressure sensor for measuring atmospheric and inner pressure of an ejection head or that liquid characteristic

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information is used to determine a reference value that sets a pressure difference between atmospheric pressure and inner pressure of the liquid ejecting head.

Rich et al. US 4,651,161 teaches detecting the pressure at a liquid ejecting head and controlling pressure in response to the detection in order to regularize a liquid ejecting amount. Rich et al. fails to disclose or suggest that the pressure sensor measures atmospheric pressure or determining a reference value that sets a pressure difference between atmospheric pressure and inner pressure of the liquid ejecting head.

Bullock et al. US 5,812,156 discloses detecting characteristic information of liquid from a memory device associated with a container for the liquid and controlling operations of a liquid ejection head in response to this detection. Bullock et al. fails to disclose or suggest use of a pressure sensor for measuring atmospheric pressure and inner pressure of a liquid ejecting head or determining a reference value that sets a pressure difference between atmospheric pressure and inner pressure of the liquid ejecting head in accordance with the characteristic information.

Wilson et al. US 6,454,375 discloses a differential pressure sensing system for measuring a liquid supply level in a liquid ejecting device. Wilson et al. fails to disclose or suggest determining a reference value that sets a pressure difference between atmospheric pressure and inner pressure of the liquid ejecting head in accordance with liquid characteristic information that is detected.

Allowable Subject Matter

6. Claims 3-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

While controlling operations of a liquid ejecting device based on detected characteristic information of the liquid is known to the prior art (see Bullock et al. '156), and the subject matter of claims 1 and 2 is evidenced by Field et al. '736, the combined subject matter of claim 3 and the claims dependent therefrom is neither shown or rendered obvious by the prior art of record since no reasonable motivation is found for such a combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet who may be reached at telephone number (571) 272-2150. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, Art Unit 2853, can be reached at (571) 272-2149. The fax

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phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet November 10, 2004

Bl. Mouttet 11/10/2004